

# THE WATER CYCLE GAME

A program by Oklahoma 4-H Youth Development & Oklahoma Water Resources Center

**SKILL: SCIENCE**

**TIME: 20 MIN**

## OBJECTIVES:

- Students will understand the four steps in the water cycle.
- Students will experience the journey a drop of water takes by participating in the Water Cycle Game.

## LESSON:

### **What exactly is the water cycle?**

The water cycle is the process of how water travels through our world. The water cycle starts with surface water like oceans, lakes or rivers.

### **What causes the water in the oceans, lakes and rivers to evaporate?**

The Sun heats up the water until it evaporates. This evaporation, also called water vapor, rises into the sky! As the vapor goes up, it runs into tiny specks of dust, dirt and pollen. That water vapor begins to stick to the tiny dust particles. As it gets higher into our atmosphere, it gets much colder.

### **What happens when the water vapor begins to cool down?**

That water vapor cools down and condensation starts to make our clouds.

## VOCABULARY

- Water Cycle
- Evaporation
- Condensation
- Precipitation
- Collection
- Surface Water

## MATERIALS

- 9 square boxes (12" x 12" or smaller)
- Water dice pictures for each box and to post around room (see chart with the pictures at end of lesson)
- Tape
- Water Cycle Game Cards
- Pencils or Crayons

# 4H<sub>2</sub>O: THE WATER CYCLE GAME

## **How much water do you think is in a cloud?**

There is a lot! Have you ever held a gallon of water or milk? Is it very heavy? Just one gallon only weighs 8 pounds but think what thousands and thousands of gallons feels like. Eventually, the cloud gets too heavy, and the moisture falls back down as rain, snow, sleet or hail — all forms of **precipitation**.

## **Where does the precipitation go when it falls?**

Collection happens, or it falls into oceans, lakes or rivers. It may also soak into the ground and collect in aquifers. This may also be referred to as surface water.

## **Let's re-cap the 4 steps of the water cycle one more time:**

1. The sun heats the water sources on earth and the water evaporates from oceans, rivers and ponds.
2. The water vapor goes up and runs into tiny specks of dust, dirt and pollen. The water vapor cools and forms condensation which forms clouds.
3. The clouds collect so much condensation that they become too heavy. This causes precipitation, or rain, which falls back to the ground.
4. The rain gathers in different collection areas like the ocean, rivers, lakes, and into the ground which is also known as surface water.

# 4H<sub>2</sub>O: THE WATER CYCLE GAME

## Instructions: The Water Cycle Game

We are going to play a game called the Water Cycle Game. You are going to be a single drop of water. If you look around the room (or along one wall), you will see pictures that represent different places where water normally exists — oceans, lakes, glaciers, clouds, rivers, groundwater — and things that use water like animals and plants. (Show them where the nine signs are taped up and go tell them the name of each one.)

Now I want you to pick a partner (If there is an odd number, you can have one group of three). Each team will get a card a pencil/crayon. This card has pictures of the nine places where water exists, the same nine places we have taped up on the wall.

At each of the stations, you will see a big dice. These big dice have pictures on them that will tell you where to go. Let's say you start out at the clouds. You will pick up the dice, roll it and go where it tells you. If you roll the OCEAN, you will go to the ocean. If you roll the PLANTS, go to the PLANTS. You will use your pencil/crayon to make a tally mark on your card next to the location you roll. After you mark your card, move to the station that you rolled.

You may visit the same place many times. That's okay. Just make a tally mark each time you visit each station. If there is a line at the station, just wait in line until the people in front of you finish. If you roll the same picture as the station you are at, move to the back of the line if others are waiting so that everyone has a turn. Don't throw the dice into the air, because it can poke out someone's eye. Also try to roll the dice near that station so that you are not in the way of other stations.

Teams can divide up and choose the station where you want to start. Keep rolling the dice and moving to the stations until I tell you stop. On your mark, get set and go!

NOTE: Since this is a 20-minute lesson, allow them to play the game until you have about 5 minutes left.



# 4H<sub>2</sub>O: THE WATER CYCLE GAME

## Let's Clean Up and Review

- Which picture on your card had the most marks?
- Who got stuck at the ocean for the longest time? Why do think that is?  
It is because the ocean is the biggest body of water. A single drop of water falls back down as rain. Since 70% of the earth is covered in oceans, there is a good chance you might fall back down in the ocean.
- Why do you think everyone kept going back to the clouds?  
Water evaporates from everything; animals, lakes, plants, the ocean. That's why you spent a lot of time at the clouds station.
- What are the four main stages of the water cycle?  
Evaporation, Condensation, Precipitation, and Collection (surface water)

## Oklahoma Aqua Times Related Lessons:

- Bottle Hydrology
- The Sunshine in Our Lives  
Water-makers  
Evaporation
- Wondrous Water-Cycle
- Transpiration-Aspiration
- Precipitation

Lessons can be found at: <https://4h.okstate.edu/projects/science-and-technology/oklahoma-aqua-times/index.html>

Lesson adapted from 4-H<sub>2</sub>O For You: The Water Cycle Game, Texas A&M AgriLife Extension Service, Guadalupe County



**OKLAHOMA WATER  
RESOURCES CENTER**



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# 4H<sub>2</sub>O: THE WATER CYCLE GAME

## PASS Standards

Grade Level	Standard	Science and Engineering Practices	Cross Cutting Concepts
4th	<b>4.ESS2.1:</b> Plan and conduct investigations on the effects of water, ice, wind, and vegetation on the relative rate of weathering and erosion.	Planning and Carrying out Investigations	Cause and Effect
4th	<b>4.ESS2.2:</b> Analyze and interpret data from maps to describe patterns of Earth's features.	Anayllzing and Interpreting Data	Patterns
5th	<b>5.ESS2.2:</b> Describe and graph amounts of saltwater abd freshwater in various reservoirs to provide evidene about the distribuion of water on Earth.	Using Mathematics and Computational Thinking	Scale, Proportion, and Quantity
6th	<b>6.ESS2.2:</b> Construct an explation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	Constructing Explanations	Scale, Proportion, and Quantity
6th	<b>6.ESS2.4:</b> Develop a model to describe the cycling of water through earth's systems driven by energy from the sun and force of gravity.	Developing and Using Models	Energy and Matter



# 4H<sub>2</sub>O: THE WATER CYCLE GAME



**GLACIER**



**LAKE**

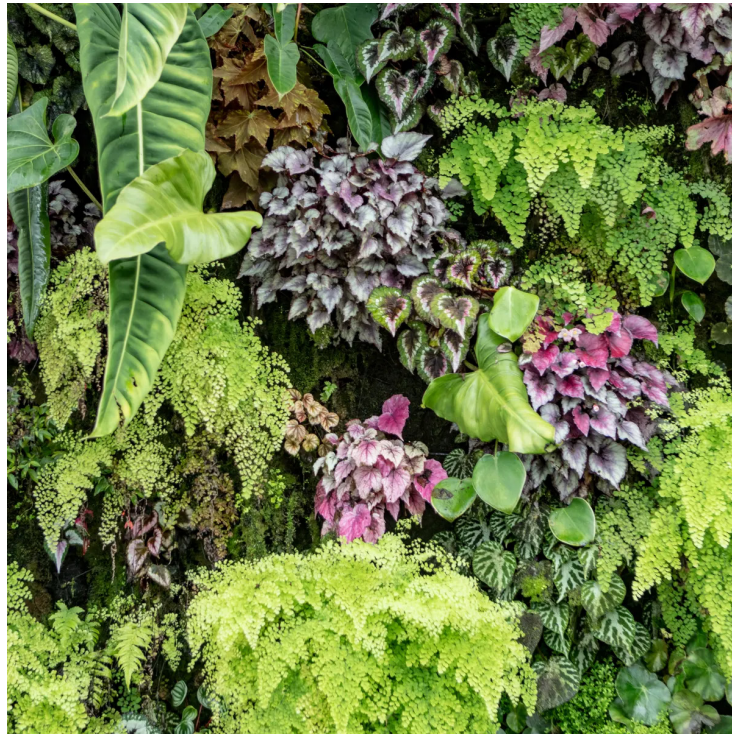


## CLOUDS



## SOIL





**PLANTS**



**GROUNDWATER**



# 4H<sub>2</sub>O: THE WATER CYCLE GAME



**OCEAN**



**RIVER**





## ANIMALS



## STAY

# 4H<sub>2</sub>O: THE WATER CYCLE GAME

## INSTRUCTIONS FOR DICE:

Make the number of copies noted below of the 10 signs. Use one set of signs (not including the STAY sign) to post on the wall around the room where each dice will be placed. Use the remaining signs to cover the six sides of the nine boxes as outlined below.

### Number of Copies of Each Sign:

Animals — 4 copies  
Clouds — 14 copies  
Glacier — 2 copies  
Groundwater — 5 copies  
Lake — 5 copies  
Ocean — 5 copies  
Plants — 2 copies  
River — 4 copies  
Soils — 4 copies  
Stay — 18 copies

### Ocean Dice

2 Clouds  
4 Stay

### River Dice

1 Animals  
1 Clouds  
1 Groundwater  
1 Lake  
1 Ocean  
1 Stay

### Plants Dice

1 Animals  
3 Clouds  
2 Stay

### Lake Dice

1 Animal  
1 Clouds  
1 Groundwater  
1 River  
2 Stay

### Glacier Dice

1 Clouds  
1 Groundwater  
1 Ocean  
3 Stay

### Groundwater Dice

2 Lake  
1 River  
3 Stay

### Clouds Dice

1 Glacier  
1 Lake  
2 Ocean  
1 Soils  
1 Stay

### Soils Dice

2 Clouds  
1 Groundwater  
1 Plants  
1 River  
1 Stay



### Animals Dice

3 Clouds  
2 Soils  
1 Stay

# 4H<sub>2</sub>O: THE WATER CYCLE GAME


## Water Cycle Game

Draw a mark next to each picture each time you visit that station.

		
<b>GLACIER</b>	<b>LAKE</b>	<b>CLOUDS</b>
		
<b>SOIL</b>	<b>PLANTS</b>	<b>GROUNDWATER</b>
		
<b>OCEAN</b>	<b>RIVER</b>	<b>ANIMALS</b>

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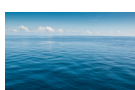

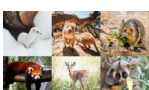
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